

c.) **Amendments to the claims:**

Please cancel claim 20 without prejudice or disclaimer of the subject matter thereof.

Please amend claims 99-102, 104-114, and 116-121 as follows:

1-98. (previously canceled).

C1/ 99. (amended) A method for obtaining bioactive substances from plant material, comprising:

mechanically disrupting plant material comprising kava root ~~the material by grinding, erushing, or macerating;~~

contacting the disrupted material with a supercritical fluid containing carbon dioxide, an alcohol and an isopropyl amine, and separating the bioactive substances there from by supercritical fluid chromatography at high pressure to remove bioactive substances from the plant material; and

collecting the ~~removed~~ bioactive substances with a resin trap;  
eluting ~~the bioactive substances from the resin trap; and~~  
separating the substances by supercritical fluid chromatography, wherein the supercritical fluid that contacts the disrupted material comprises carbon dioxide, alcohol and isopropylamine as a secondary modifier.

2 100. (amended) The method of claim 99, wherein ~~the plant material is kava root~~ mechanically disrupting comprises grinding, crushing, macerating or a combination thereof.

3 101. (amended) The method of claim 99, wherein ~~the plant material is leaves and bark of Byrsonima crassifolia~~ disrupted material is contacted with the supercritical fluid at a minimum pressure of between 200 and 400 bar, and a maximum pressure of between 400 and 600 bar.

4 102. (amended) The method of claim 99, wherein the supercritical fluid chromatography is ~~carried out by~~ comprises passing the supercritical fluid through an NH<sub>2</sub> NH<sub>2</sub> column.

S 103. (original) The method of claim 99, wherein the resin trap is a C-18 resin.

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104. (amended) The method of claim <sup>7</sup>99, wherein the column is maintained at a temperature of at least 90 degrees centigrade.

7 105. (amended) A method for obtaining a ~~high recovery of kawain and~~ or a methysticin from a kava root, comprising:

mechanically disrupting the kava root by ~~grinding, crushing, or macerating to~~  
~~prepare an extract;~~

contacting the disrupted material with a supercritical fluid containing carbon dioxide, ~~and~~  
an alcohol and an isopropyl amine at a pressure of at least 350 atmospheres and separating the  
substances there from by supercritical fluid chromatography;

collecting the ~~removed kawain and methysticin~~ substances with a resin trap; and  
eluting the kawain ~~and or the methysticin from said~~ substances from the resin trap.

8 106. (amended) The method of claim <sup>7</sup>105, wherein the alcohol is an ethanol and said  
ethanol comprises at least 15% of said supercritical fluid.

9 107. (amended) The method of claim <sup>7</sup>105, wherein the supercritical fluid chromatography  
is carried out at a temperature of at least 60 degrees centigrade.

10 108. (amended) The method of claim <sup>7</sup>105, wherein the ~~supercritical~~ pressure is maintained  
between 350 to 450 atmospheres.

11 109. (amended) The method of claim <sup>7</sup>105, wherein the ~~column is maintained~~ supercritical  
fluid chromatography is carried out at a temperature of at least 90 degrees centigrade.

12 110. (amended) A method for obtaining a ~~high recovery of kavalactones~~ p.32 line 11,  
Table 1} kavalactone from kava root, comprising:

mechanically disrupting ~~the~~ a material containing kava root ~~to prepare an extract by~~  
~~grinding, crushing,~~  
~~or macerating;~~

contacting the disrupted material with supercritical fluid containing carbon dioxide, ~~and~~  
 an alcohol and an isopropyl amine, at a pressure of at least 275 atmospheres and separating the  
 substances by supercritical fluid chromatography over an  $\text{NH}_2$   $\text{NH}_2$  column;

collecting the ~~removed kavalactones~~ kavalactone with a resin trap; and

~~eluting the kavalactones from the resin trap.~~

13 111. (amended) The method of claim 110,<sup>12</sup> wherein 15% by volume of the ~~carbon dioxide~~  
super critical fluid ~~by volume~~ is ~~replaced with~~ ethanol.

14 112. (amended) The method of claim 110,<sup>12</sup> wherein the ~~extracted methysticin~~ kavalactone  
 is ~~further~~ purified by supercritical fluid chromatography over an  $\text{NH}_2$  another  $\text{NH}_2$  column.

15 113. (amended) The method of claim 110,<sup>12</sup> wherein the  $\text{NH}_2$   $\text{NH}_2$  column is operated at a  
 temperature above 40 degrees centigrade.

16 114. (amended) The method of claim 110,<sup>12</sup> wherein the ~~analysis time is reduced by using a~~  
supercritical fluid chromatography comprises methanol in carbon dioxide a gradient of from 7%  
 to 10% methanol.

17 115. (original) The method of claim 110,<sup>12</sup> wherein the column is maintained at a  
 temperature of at least 90 degrees centigrade.

18 116. (amended) A method for obtaining bioactive substances from a plant material,  
 comprising:

mechanically disrupting the plant material comprising kava root ~~by grinding, crushing, or~~  
~~macerating~~;

contacting the disrupted material with a supercritical fluid ~~of~~ containing isopropyl amine,  
 carbon dioxide and with an alcohol at high pressure ~~to remove the bioactive substances from the~~  
~~plant material~~;

collecting the ~~removed~~ bioactive substances with a resin trap;

eluting the bioactive substances from the resin trap ~~and separating the~~

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substances by supercritical fluid chromatography over an NH<sub>2</sub> NH<sub>2</sub> column;  
— wherein isopropylamine is mixed into the alcohol prior to mixing the alcohol with carbon dioxide as a secondary modifier.

117. (amended) The method of claim 116, wherein the ~~supercritical fluid in contact with the NH<sub>2</sub> column is carbon dioxide and alcohol~~ isopropyl amine is mixed into the alcohol prior to mixing the alcohol with the carbon dioxide.

118. (amended) The method of claim 116, wherein the column is maintained at a temperature of at least 90 degrees centigrade.

119. (amended) The method of claim 116, wherein ~~the plant material is kava root~~ mechanically disrupting comprises grinding, crushing, macerating or a combination thereof.

120. (amended) A ~~purified~~ preparation of bioactive substances obtained by ~~the method of claim 116~~ a method consisting essentially of:

— mechanically disrupting plant material comprising kava root;  
contacting the disrupted material with a supercritical fluid containing carbon dioxide, an alcohol and an isopropyl amine, and separating the bioactive substances there from by supercritical fluid chromatography; and  
— collecting the bioactive substances with a resin trap.

121. (amended) A ~~purified~~ The preparation of bioactive substances ~~obtained by the method of claim 116~~ 120, wherein the plant material is kava root which comprises one or more bioactive substances selected from the group consisting of a kawain, a methysticin, a kavalactone, and a combination thereof.